



MINISTRY OF
AGRICULTURE, FISHERIES AND FOOD

FOOD STANDARDS COMMITTEE REPORT ON CANNED MEAT

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FOOD STANDARDS COMMITTEE

The terms of reference of the Food Standards Committee are:

To advise the Secretary of State for Scotland, the Minister of Agriculture, Fisheries and Food, the Minister of Health, and as respects Northern Ireland the Secretary of State for the Home Department, on the composition, description, labelling and advertising of food with particular reference to the exercise of the powers conferred on Ministers by Sections 4, 5 and 7 of the Food and Drugs Act, 1955, and the corresponding provisions in enactments relating to Scotland and Northern Ireland.

The members of the Food Standards Committee are:

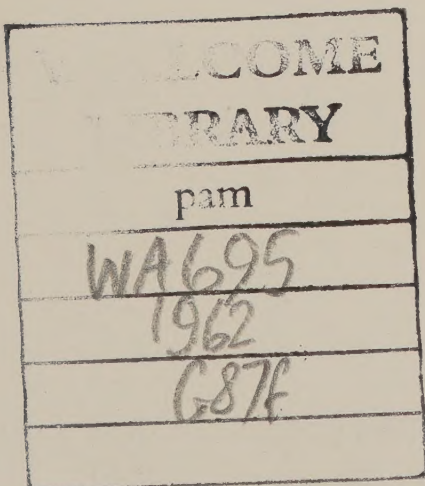
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FOOD STANDARDS COMMITTEE

REPORT ON CANNED MEAT

Terms of reference

1. We have been asked to advise:

- (a) whether the establishment of statutory standards of composition for canned meat products is desirable in the interests of consumers;
- (b) what would be the appropriate standard for each product which it is considered necessary to bring under control;
- (c) the extent to which any standard recommended could be enforced.

Annual production

2. The annual production of canned meat and canned meat products in this country is of the order of 60,000 tons, imports are of the order of 200,000 tons of which about 30 per cent is corned beef.

The need for control

3. We have received evidence of wide variation in the meat content of canned meat products of similar kinds and sold under similar descriptions. It has been suggested to us that there has been a decline in the meat content of many types of canned meat products since the end of control in 1952. It is very difficult to obtain convincing evidence on such a point, but we think the fact of wide variation does suggest that some form of control is necessary. The consumer cannot at present be certain of the amount of meat in a canned meat product or of what is implied by the names given to the various types of product.

4. It would be possible for some control to be exercised by codes of practice agreed voluntarily between the trade and enforcement authorities. One code, which we understand has been successful, has been issued for luncheon meat. We recognise that there are some products for which codes of practice may afford sufficient protection to the consumer. However, it is always bound to be more difficult to apply codes of practice to imports and to enforce them generally. In our view, canned meat products are of sufficient importance and complexity to warrant statutory standards. We do not think that control could be properly exercised in any other way, particularly in view of the fact that four-fifths of the canned meat tonnage is imported.

Methods of control

5. We have considered various methods of control and have concluded that there are three possibilities. First, to require a compulsory declaration of meat content. We discuss this in paragraphs 6–8 below. Secondly, to lay down standards of minimum meat content for the most important categories only. We discuss this in paragraph 9 below. Thirdly, to lay down standards covering the minimum meat content of all types of meat product. This is dealt with in paragraphs 10–14 below.

Compulsory percentage declaration of meat content

6. Under this method it would be compulsory to declare the percentage meat content of any product containing meat. The percentage would have to be marked clearly and prominently on the label in a manner prescribed in the

regulations, but no further statutory control would be necessary. As such regulations would not contain a standard, the provisions of the Labelling of Food Order on declaration of ingredients would continue to apply to canned meat products.

7. This method has the advantage of simplicity. It avoids the difficulties of definition which must occur if standards are imposed and which must always make standards for mixed products extremely difficult to establish, and it also avoids the need to make arbitrary decisions on which side of a rigid line a particular product ought to be placed. There would be no possibility of a standard being avoided by a mere change in nomenclature and no danger of the meat content of products being reduced so as to conform to a minimum standard once one was established. There would be no interference with the manufacturer's liberty to use as much or as little meat as he felt inclined, provided always that he declared the percentage of meat that he did in fact use. Section 6 of the Food and Drugs Acts would probably be sufficient to deal with misleading names or pictures showing an exaggerated amount of meat even if these were used in conjunction with a true statement of the percentage meat content.

8. We recognise that these are powerful arguments, but we are not convinced that a percentage declaration of meat content would afford a sufficient protection for the consumer. In our view, the consumer ought to be able to be sure, when buying a canned meat product of a particular variety and under a particular designation, that it contains a reasonable amount of meat. We are far from convinced that a close scrutiny of the label before purchase is always possible in practice, let alone always carried out. If a declaration of percentage meat content only were required, it would be all too easy for a purchaser to fail to discriminate at first sight between an article with a very small meat content and one with a high meat content if they were labelled similarly and given similar names or descriptions. We do not, therefore, favour this method of dealing with the problem.

Compositional standards for the most important categories only

9. In this method the aim would be to decide which were the most important categories of canned meat and to lay down compositional standards for them leaving the other products to be controlled by the general provisions of the Food and Drugs Acts, by voluntary codes of practice and by the normal pressures of consumer acceptance and demand. Compulsory declaration of meat content as described in paragraphs 6-8 could also be applied to the other products. The advantage of this method would be that it would make it unnecessary to work out comprehensive definitions or to lay down a minimum meat content which would be appropriate to any sort of made-up dish which might quite properly contain only a small amount of meat. It seems to us, however, that there are two serious disadvantages. It would be very difficult indeed to define the selected types of canned meat products for which a standard was proposed in such a way that no product to which the standard was intended to apply could avoid it either by a slight change of name, if the standard was allied to designation, or by the addition of small amounts of unusual ingredients if the standard was allied to composition. It would also be difficult to make clear to a purchaser which were the products to which a standard applied. The second disadvantage would be that control would almost inevitably be confined to those canned meat products which were of major importance at the time of making regulations; but this is a trade which is developing rapidly and new lines are continually being produced. It is impossible to tell today which will be the most

important lines even in the comparatively near future. Therefore, if control is necessary at all, it can only be made effective on this partial basis either by constant revision and extension of the standards or by making them comprehensive. It seems to us far preferable to have comprehensive standards to which the trade can refer than to have to add to the standards continually in an effort to keep up with trade developments.

Comprehensive standards

10. The great advantage of comprehensive standards is that they are comprehensive. They mean that the customer can always be sure that the article he purchases is of a reasonable compositional standard. However, wherever mixed products are concerned, defining and categorising are bound to lead to difficulties and these difficulties may sometimes be insuperable. We do not think they are in the case of canned meat products.

11. Any comprehensive standards must be based on simple and easily understandable principles, they must not unduly hamper the manufacturer's freedom to introduce new products or to satisfy public taste and they must provide the consumer with a real protection. While we think it would be wrong to prevent a manufacturer producing composite products with a very low meat content, we do think that these should be labelled in such a way as to distinguish them from canned meat products in which meat is a major ingredient and to which the proposed standards would apply. To this extent the standards would refer to nomenclature, but generally they would be compositional standards.

12. It may be that, if the standards we suggest are accepted, the manufacturers of some perfectly satisfactory products will be compelled either to increase the meat content or to change the description on the label. We do not regard this as unreasonable for consumer protection and information. Any standard must be arbitrary in the sense that there will be little difference between a product just above the standard and one just below it, but, provided that the standards are fixed reasonably, the adjustments the trade will have to make need not be onerous. If standards were to be fixed so that every product at present on the market could comply with them without difficulty, they would not conform to our third basic requirement of providing the consumer with a real protection.

13. We think comprehensive standards should and can be based on the following principles:

- (a) A minimum percentage meat content standard should be laid down for canned meat itself.
- (b) Mixed products should be categorised according to the next largest ingredient by weight after meat. They should be defined as having a lower meat content than that established for canned meat itself.
- (c) A minimum percentage meat content should be laid down for each of the categories of mixed product.
- (d) A minimum meat content should be laid down for any other meat product which does not come within the categories as specified.
- (e) There would be no need to lay down percentage contents for any other ingredient than meat.
- (f) A clear declaration of the category into which the product falls should be made on labels and in advertisements.
- (g) Products not being described as or claiming to be meat products would be exempt from the standards.

14. In our view, a reasonable and equitable set of standards for canned meat products can be evolved by the elaboration of these principles. We have attempt-

ted to do this in the draft of regulations which is attached as Appendix I. We think this departure from our normal practice may be helpful since, although it is in no sense a legal document and will clearly need re-drafting in legal form if it were accepted as a basis for regulations, it does show in detail how the sort of standards we are proposing could be formulated and helps to clarify a complicated subject.

Detailed consideration of the proposed standards

Definitions

15. We have included the word “added” before the words “gravy” and “jelly” so that natural meat juices and the jelly formed naturally by the meat will be regarded as part of the meat.

16. We think it necessary to make a modification of the principle of categorizing mixed products according to the next largest ingredient after meat in the case of canned meat with vegetables. An acceptable and palatable product can be made in which gravy or sauce exceeds the vegetables by weight. It seems to us sufficient to lay down a minimum meat content and to insist that vegetables and gravy or sauce are principal ingredients.

Method of Calculating Meat Content

17. We considered whether the meat contents proposed should be calculated on the basis of raw meat or cooked meat. We concluded that there was no reliable way of calculating the cooked meat content of a meat product and that, therefore, a raw meat standard was the only practicable one. While this would give entirely satisfactory results for most meat products, it does mean that products like corned beef will have a raw meat content—and therefore a meat content for the purpose of the proposed regulations—in excess of 100 per cent and so at least in theory, it would be possible for the manufacturer to reduce the amount of meat used considerably and still come within the standard we propose for canned meat. We have endeavoured to deal with this by adding to the canned meat standard the words “except that canned meat sold under the description ‘corned’ shall consist wholly of meat which has been subjected to the process known as corning”.

Meat Paste and Canned Soups

18. We think these products should be specifically excluded from the regulations.

Proposed Standards

19. We propose the following standards:

- Canned meat—95 per cent
- Canned minced meat—90 per cent
- Canned meat with jelly—80 per cent
- Canned meat with gravy—75 per cent
- Canned meat with sauce—65 per cent
- Canned meat with cereal—80 per cent
- Meat loaf—65 per cent
- Meat loaf with stuffing—50 per cent
- Canned meat with vegetables—35 per cent
- Canned meat with pastry—45 per cent
- Canned meat puddings—35 per cent
- Canned meat pies—25 per cent
- Canned sausage—50 per cent
- Canned pork sausage—65 per cent
- Any other canned meat product—35 per cent.

Generally speaking, we suggest these standards on the basis of what seems to us good commercial practice and of what the consumer can reasonably expect in a product which is sold under each of these denominations. In the case of a product containing two or more ingredients other than meat, the selection of the largest by weight to determine the standard is to some extent arbitrary, but it does provide a set of clear and simple divisions and will not in our opinion cause hardship to the manufacturer or deception of the consumer. Real difficulty only arises in the case of canned meat with vegetables. We have indicated in paragraph 16 how we think this problem might be dealt with.

20. We have fixed the canned meat standard below 100 per cent in order not to exclude products which contain small amounts of added gravy or garnish or small amounts of added jelly used merely to hold the meat in place. We have divided the canned meat with cereal heading into three parts since we are satisfied that there are two sorts of "meat roll" on the market, one with a much higher meat content which is usually known in the trade as "luncheon meat" and the other, with a lower meat content, known as "meat roll" or "meat loaf". Both these products satisfy a real demand and we consider the standard and the consequential labelling requirements should recognise the distinction. There is a third type of product which consists of a meat roll with a central core of cereal stuffing. Such a product would clearly not conform to the standard we have laid down for meat roll and we therefore think it advisable to lay down a special standard for it. The standard for canned meat with cereal (80 per cent) would apply to canned hamburgers and other similar products.

21. We have thought it necessary to lay down a final category to cover any canned meat product not covered by the specific categories. This seems to us essential to avoid anomalies arising between similar mixed products and to ensure that they all come within the standard. However, we have examined a list of more than 200 products said to be at present on the market and we are reasonably satisfied that all of them would fall within one or other of the specific standards. The final category is, therefore, a long stop.

22. One advantage of the proposed system is, in our opinion, that the manufacturer can tell by the weight of the ingredients he is proposing to put in his can the category into which the product falls. If he sells the product as a meat product or implies in any way that it is a meat product, there can be no doubt that he has to comply with the standard for the particular category.

23. As we have said, we do not think it would be right to prohibit the production of mixed products with lower meat contents than those we have laid down, but if such a product is sold, meat must not be mentioned on the label except in such a phrase as "beans with pork" and there must be no implication that meat is a major ingredient. The use of names that are normally connected with meat dishes such as Irish Stew or Lancashire Hotpot would be forbidden to products which did not conform to any of the standards.

Meat Rolls and Sausages as one Ingredient in a Canned Meat Product

24. It is necessary to make some provision for meat rolls and sausages (or other standardised single commodity) being canned with gravy or vegetables or being used as one item in a mixed dish. It would clearly be absurd to require that a hamburger type of product should contain 80 per cent of meat when canned by itself (canned meat with cereal category), but about 94 per cent of meat if canned with 20 per cent of gravy, in order that the whole content of the can should comply with the standard for canned meat with gravy.

25. The simple solution, which we recommend, is to apply the following dual standard to such products. First, to require that the sausage or meat roll (or other standardised) ingredient shall conform to the standard prescribed for it when canned alone and, secondly, regarding the mixed product as a whole, to require that that should conform to the appropriate mixed product standard, with the proviso that, for the purposes of the meat calculation for the mixed product, the sausage or meat roll (or other standardised) ingredient shall be deemed to consist of 95 per cent meat. It would, of course, be necessary to declare the presence of meat roll or sausage as part of the declaration on the label as put forward in Paragraph 30. This method will obviate the difficulties that might otherwise arise with mixed products containing meat rolls or sausages. It is perhaps most clearly understood when cast in the form of a draft regulation. We have done this in paragraph 12 of Appendix I.

Fat

26. Owing to the possibility of adding fat to canned meat products, we think it necessary to lay down the maximum amount of fat that may be permitted in meat for the purposes of calculating whether or not the product conforms with the standard. We recommend that the figure should normally be 25 per cent of the total meat content except that, where pork is the main meat constituent, it should be 30 per cent and for canned bacon, canned sausages and canned chops, 50 per cent.

Bone

27. There are some canned meat products such as pork chops in which it is natural to expect that some bone will be present. However, the presence of bone will make it impossible to reach the 95 per cent meat standard unless some allowance is made. We propose therefore that bone may be permitted in a product if its presence is declared on the label or if the description includes some name such as "chops" which would normally be understood by the purchaser to indicate the presence of bone. In calculating the percentage meat content and next largest ingredient after meat, the bone would be ignored altogether. In this way, products would be allowed to contain bone when this was normal and reasonable and the proper meat content of the product would be maintained.

28. We understand that it is a common practice to can the whole carcase of chickens and other birds without removing any bones. We think that the best way to deal with such products is to exclude them completely from the scope of the regulations and we have done this in our definition of "meat".

Brine

29. Where products are canned in brine we think the brine should be ignored in calculating the percentage meat content.

Labelling

30. We think it is essential, if the standards proposed are to give the consumer adequate protection, for a declaration to be printed on the label clearly indicating what type of product is being sold. We do not think this is necessary, however, in the case of products sold under the description 'corned' in view of the provision we have suggested in paragraph 17 above. We have suggested a number of alternative wordings so that no true description will be banned and the manufacturer will have adequate discretion in deciding on the wording of the declaration. There will, of course, be no objection to any brand name or other wording being put on the label in addition to the declaration, provided

they are not misleading. To make quite sure that in the case of products containing a number of ingredients, the customer knows precisely what he is purchasing, we think that the exemption from complying with the need to put a list of ingredients on the label which applies to goods for which there is a standard should not be extended to canned meat products.

Advertising

31. We do not think there is any case for a rigorous control of advertising of canned meat products in the context of these proposed regulations. We do, however, consider that the declaration in the same form as it will be required on labels should be applied to advertisements so that the declaration appears clearly and prominently at least once on the advertisement.

Sampling

32. We have considered whether any special provisions are needed to deal with sampling. We are satisfied that in the majority of cases there will be no serious difficulty in applying the methods laid down in the Seventh Schedule of the Food and Drugs Act and the corresponding Scottish provisions. With some products a hand mincing machine might be employed when dividing the contents of a can into three parts and, where necessary, the Sampling Officer could invoke Section 97 of the Food and Drugs Act (Section 33 of the Scottish Act), which allows separate containers to be treated as if they were parts of a sample. There is, therefore, no need for any specific provision in the proposed regulations. We have had some experiments carried out on the question of sampling and the results are given in Appendix II. As might be expected, if separate cans of a product such as Irish Stew are taken to form the three parts of a sample there are differences in the estimates of meat content. The percentages of lean meat show considerable variation but the results for total meat are in reasonably good agreement. The experiment with a hand mincing machine was on too small a scale for any definite conclusions to be drawn but it suggests that reasonable uniformity can be obtained with a product such as Irish Stew and that there may well be less variation between three minced samples than between three separate cans. The use of a hand mincing machine, of course, would not be a practical method for products of the canned meat with pastry type, nor would this be suitable for those products mentioned in paragraphs 24 and 25 above.

Analysis

33. We have considered whether there would be any advantage in laying down methods of analysis in the regulations. Although there are advantages in all analysts working on the same basis, we think the disadvantages of laying down methods of analysis outweigh the advantages. It might hinder the introduction of improvements and would also mean that the manufacturer would be required to make a product which gave a particular result on analysis rather than to put a certain percentage of meat into a particular product. We think this is to be avoided. The same objections apply to the laying down of conversion factors only. It seems to us better to leave some discretion in the employment of conversion factors in the hands of the analyst. Conversion factors could, in our view, be the subject of codes of practice agreed between enforcement authorities, analysts and the trade and not of regulations. Modification of a code of practice in the light of further knowledge is a simple matter, but amendment of a regulation is much more difficult and complex.

34. We are satisfied that, although analysing the meat content of a mixed product is difficult, the standards we propose are analytically enforceable.

There is bound to be a margin of error in the analytical results, but since the analyst, when he makes allowances for, say, nitrogen arising from the presence of vegetables, is likely to give the manufacturer the benefit of any doubt, we do not think that the analytical difficulties are likely to cause hardship in the administration and enforcement of the proposed regulations.

Summary of Conclusions and Recommendations

35. (a) There should be comprehensive standards for canned meat products on the basis set out in Appendix I (paragraphs 10-29).
- (b) A declaration should be printed on the label of all canned meat products except those described as corned meat, clearly indicating the type of product being sold (paragraph 30).
- (c) A similar declaration should appear once on all advertisements for canned meat, but no further provisions with regard to advertising are required in the context of the proposed regulations (paragraph 31).
- (d) No special provisions with regard to sampling are required (paragraph 32).
- (e) No method of analysis should be laid down in regulations (paragraph 33).
- (f) The proposed standards are analytically enforceable (paragraph 34).

APPENDIX I

DRAFT OF POSSIBLE CANNED MEAT REGULATIONS

Definitions

1. (a) “*Canned*” means packed in a tin, jar or other hermetically sealed container by any means involving the application of heat whether before, during or after packing in the container; provided that any reference to a canned meat product shall be deemed to refer also to that meat product after removal from the original container.
- (b) “*Canned Meat with Cereal*” means a product which has a meat content of less than 95 per cent and of which, apart from meat, cereal is the principal constituent by weight.
- (c) “*Canned Meat with Gravy*” means a product, not being canned meat with vegetables, which has a meat content of less than 95 per cent and of which, apart from meat, added gravy is the principal constituent by weight.
- (d) “*Canned Meat with Jelly*” means a product which has a meat content of less than 95 per cent and of which, apart from meat, added jelly is the principal constituent by weight.
- (e) “*Canned Meat with Pastry*” means a product which has a meat content of less than 95 per cent and of which, apart from meat, pastry is the principal constituent by weight.
- (f) “*Canned Meat with Sauce*” means a product, not being canned meat with vegetables, which has a meat content of less than 95 per cent and of which, apart from meat, sauce is the principal constituent by weight.
- (g) “*Canned Meat with Vegetables*” means a product, not being canned meat with cereal, canned meat with jelly or canned meat with pastry, which has a meat content of less than 95 per cent and of which vegetables and either gravy or sauce are principal ingredients.
- (h) “*Canned Sausage*” means canned meat with cereal where the meat ingredients are wholly contained in the form of sausages.
- (i) “*Cereal*” includes potato flour and potato starch.
- (j) “*Gravy*” means the product usually known as gravy consisting of a liquid, thickened or unthickened, having a colour and a flavour essentially derived from meat.
- (k) “*Meat*” means the flesh of any animal or bird and includes bacon or ham but does not include prohibited offal or the carcasses of whole birds from which no bones have been removed.
- (l) “*Meat Content*” means the percentage of the net weight of all meat when raw (after all waste has been eliminated) contained in any quantity of any product to which these regulations apply relative to the total weight of that quantity.
- (m) “*Pastry*” includes the outer covering of puddings and also includes dumplings and any form of paste.

- (n) “*Sauce*” means a liquid, thickened or unthickened having a colour and flavour essentially derived from ingredients other than meat and added to a product for the purpose of modifying that product by introducing colours or flavours not primarily derived from meat.
- (o) “*Sausage*” means any mixture of meat and cereal filled into a natural or artificial casing, not being a loose wrapping or container, and any mixture of meat and cereal, whether in a casing or not, of the shape commonly known as “sausage-shape”, that is, a cylinder with semi-spherical ends.
- (p) “*Sell*” includes expose or offer for sale or have in possession for sale and “sale” shall be construed accordingly.
- (q) “*Vegetable*” includes mushroom and other edible fungi and rice.

Meat Paste and Canned Soups

2. These regulations do not apply to meat paste or to canned soups.

Canned Meat

3. (a) Canned meat intended for sale for human consumption shall have a meat content of not less than 95 per cent or if it consists of minced meat and is designated in, or as part of, or in conjunction with any brand name or descriptive name and in letters of the same size and colour: “minced meat”, not less than 90 per cent. Except that canned meat sold under the description ‘corned’ shall consist wholly of meat which has been subjected to the process known as corning.
- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat unless the food complies with one of the above standards and no person shall sell canned minced meat conforming to the standard for canned minced meat under such a description as to lead an intending purchaser to believe he is purchasing canned meat conforming to the higher standard above.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat except canned minced meat he shall be deemed to be selling canned meat conforming to the higher standard above unless he clearly notifies the purchaser at the time of sale that the food is not canned meat. Where a person sells any food to a purchaser in response to a request for canned minced meat, he shall be deemed to be selling canned minced meat unless he clearly notifies the purchaser at the time of sale that the food is not canned minced meat.

Canned Meat with Jelly

4. (a) Canned meat with jelly intended for sale for human consumption shall have a meat content of not less than 80 per cent.
- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat with jelly unless the food complies with the above standard.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat with jelly he shall be deemed to be selling canned meat with jelly unless he clearly notifies the purchaser at the time of sale that the food is not canned meat with jelly.

Canned Meat with Gravy

5. (a) Canned meat with gravy intended for sale for human consumption shall have a meat content of not less than 75 per cent.

- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat with gravy unless the food complies with the above standard.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat with gravy he shall be deemed to be selling canned meat with gravy unless he clearly notifies the purchaser at the time of sale that the food is not canned meat with gravy.

Canned Meat with Sauce

- 6. (a) Canned meat with sauce intended for sale for human consumption shall have a meat content of not less than 65 per cent.
- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat with sauce unless the food complies with the above standard.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat with sauce he shall be deemed to be selling canned meat with sauce unless he clearly notifies the purchaser at the time of sale that the food is not canned meat with sauce.

Canned Meat with Cereal

- 7. (a) Canned meat with cereal intended for sale for human consumption when in a container bearing a label on which appears any brand name or description in which meat or any variety of meat is mentioned, except when, not being the first ingredient mentioned, it is mentioned after the word “with”, or on which appears any statement or pictorial device which implies, either directly or by ambiguity, omission or inference that meat is a major ingredient, shall have a meat content of not less than 80 per cent, or, if it is designated in, or as part of, or in conjunction with, any brand or descriptive name and in letters of the same size and colour: “meat loaf” or “meat roll”, 65 per cent, or, if it consists of a fully homogenised mixture of comminuted meat and cereal with a central filling of stuffing and is designated in, or as part of, or in conjunction with any brand or descriptive name and in letters of the same size and colour: “meat roll with stuffing” or “meat loaf with stuffing”, 50 per cent.
- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat with cereal unless the food complies with one of the above standards and no person shall sell canned meat with cereal conforming to the lower standard for meat loaf or meat roll or the lower standard for meat loaf with stuffing or meat roll with stuffing under such a description as to lead an intending purchaser to believe he is purchasing canned meat with cereal conforming to the highest standard above and no person shall sell canned meat with cereal conforming to the lower standard for meat loaf with stuffing or meat roll with stuffing under such a description as to lead an intending purchaser to believe he is purchasing canned meat with cereal conforming to the standard for meat loaf or meat roll.

- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat with cereal conforming to the highest standard above, he shall be deemed to be selling canned meat with cereal conforming to the highest standard unless he clearly notifies the purchaser at the time of sale that the food is not canned meat with cereal of that highest standard. Where a person sells any food to a purchaser in response to a request for meat loaf or meat roll he shall be deemed to be selling meat loaf or meat roll unless he clearly notifies the purchaser at the time of sale that the food is not meat loaf or meat roll. Where a person sells any food to a purchaser in response to a request for meat loaf with stuffing or meat roll with stuffing he shall be deemed to be selling meat loaf with stuffing or meat roll with stuffing unless he clearly notifies the customer at the time of sale that the food is not meat loaf with stuffing or meat roll with stuffing.

Canned Meat with Vegetables

8. (a) Canned meat with vegetables intended for sale for human consumption when in a container bearing a label on which appears any brand name or description in which meat or any variety of meat is mentioned, except when, not being the first ingredient mentioned, it is mentioned after the word "with", or on which appears a statement or pictorial device which implies, either directly or by ambiguity, omission or inference that meat is a major ingredient, shall have a meat content of not less than 35 per cent.
- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat with vegetables unless the food complies with the above standard.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat with vegetables he shall be deemed to be selling canned meat with vegetables unless he clearly notifies the purchaser at the time of sale that the food is not canned meat with vegetables.

Canned Meat with Pastry

9. (a) Canned meat with pastry intended for sale for human consumption when the container bearing a label on which appears any brand name or description in which the meat or any variety of meat is mentioned, except when, not being the first ingredient mentioned, it is mentioned after the word "with", or on which appears any statement or pictorial device which implies, either directly or by ambiguity, omission or inference that meat is a major ingredient, shall have a meat content of not less than 45 per cent, or if it consists of a meat pudding or meat puddings and is designated in, or as part of, or in conjunction with any brand or descriptive name and in letters of the same size and colour: "meat pudding" or "meat puddings", 35 per cent, or if it consists of a meat pie or meat pies and is designated in, or as part of, or in conjunction with any brand or descriptive name and in letters of the same size and colour: "meat pie" or "meat pies", 25 per cent.

- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned meat with pastry unless the food complies with one of the above standards and no person shall sell canned meat with pastry conforming to the lower standards for meat pudding or meat puddings or the lower standard for meat pie or meat pies under such a description as to lead an intending purchaser to believe he is purchasing canned meat with pastry conforming to the highest standard above and no person shall sell canned meat with pastry conforming to the lower standard for meat pie or meat pies under such a description as to lead an intending purchaser to believe he is purchasing canned meat with pastry conforming to the standard for meat pudding or meat puddings.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat with pastry conforming to the highest standard above he shall be deemed to be selling canned meat with pastry conforming to the highest standard unless he clearly notifies the purchaser at the time of sale that the food is not canned meat with pastry of that highest standard. Where a person sells any food to a purchaser in response to a request for a meat pudding or meat puddings he shall be deemed to be selling a meat pudding or meat puddings unless he clearly notifies the purchaser at the time of sale that the food is not a meat pudding or meat puddings. Where a person sells any food to a purchaser in response to a request for a meat pie or meat pies he shall be deemed to be selling a meat pie or meat pies unless he clearly notifies the purchaser at the time of sale that the food is not a meat pie or meat pies.

Canned Sausage

- 10. (a) Canned sausage intended for sale for human consumption shall have a meat content of not less than 50 per cent, except that canned sausages which are described on labels or in advertisements as pork sausages or frankfurters or liver sausages or salami or polonies or black puddings or breakfast sausages or luncheon sausages should have a meat content of not less than 65 per cent.
- (b) No person shall sell any food intended for human consumption under such a description as to lead an intending purchaser to believe he is purchasing any type of canned sausage unless the food complies with one of the above standards and no person shall sell canned sausages conforming to the lower standard under such a description as to lead the intending purchaser to believe he is purchasing canned sausages conforming to the higher standard above.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned sausages conforming to the higher standard above, he shall be deemed to be selling canned sausage conforming to the higher standard above unless he clearly notifies the purchaser at the time of sale that the food is not canned sausage of that higher standard. Where a person sells any food to a purchaser in response to a request for any type of canned sausage conforming to the lower standard above he shall be deemed to be selling canned sausage conforming to the lower standard above unless he clearly notifies the purchaser at the time of sale that the food is not canned sausage conforming to the lower standard above.

Any other Canned Meat Product

- 11. (a) Any other canned meat product intended for sale for human con-

sumption when in a container bearing a label on which appears any brand name or description in which meat or any variety of meat is mentioned, except when, not being the first ingredient mentioned, it is mentioned after the word "with", on which appears any statement or pictorial device which implies, either directly or by ambiguity, omission or inference that meat is a major ingredient, shall have a meat content of not less than 35 per cent.

- (b) No person shall sell any food intended for human consumption under such description as to lead an intending purchaser to believe he is purchasing any type of canned meat product unless the food complies with the above standard.
- (c) Where a person sells any food to a purchaser in response to a request for any type of canned meat product he shall be deemed to be selling a canned meat product unless he clearly notifies the purchaser at the time of sale that the food is not a canned meat product.

Meat Rolls and Sausages as one Ingredient of Canned Meat Products

12. (a) Where a fully homogenised mixture of comminuted meat and cereal or any form of sausage is present in any canned meat product as one ingredient, the meat content of that mixture or that sausage shall conform to one of the standards for canned meat with cereal or one of the standards for canned sausage.
- (b) If no other meat is present, the product shall be deemed to comply with the appropriate standard if the total weight of the mixture or the sausage expressed as a percentage of the total weight of the product is not less than the total meat content laid down for canned meat with gravy or sauce, canned meat with pastry or canned meat with vegetables, whichever is appropriate and the appropriate declaration is made on the label of the container.
- (c) If other meat is present, the product shall be deemed to comply with the appropriate standard if the meat content of the product as a whole conforms to the standard when the meat content of the mixture or the sausage is treated as if it were 95 per cent, provided that the appropriate description of the mixture or the sausage is included in the declaration on the label of the container.

Fat

13. For the purpose of determining the meat content of a product, fat shall only be reckoned as meat up to 25 per cent of the total meat content by weight, except that when pork is the main meat constituent, fat may be reckoned as meat up to 30 per cent of the total meat content by weight and that for canned bacon, canned sausages and canned chops, fat may be reckoned as meat up to 50 per cent of the total meat content.

Bone

14. In determining the percentage content of meat, jelly, gravy, sauce, cereal, vegetables and pastry, the weight of any bone that is reasonably present as part of or adhering to a piece of meat, which bone can be reasonably expected by the purchaser to be present by reason of a specific declaration on the label of the container or by the use of a word or words that implies the presence of bone, shall be disregarded.

Labelling

15. (a) No person shall sell any product, not being canned meat sold under the description 'corned', for which a standard is laid down by the regulations unless it bears on the label whichever of the following declaration is appropriate:

Meat

Minced Meat

Meat with Jelly

Meat with Gravy

Meat with Sauce

Meat with Cereal

Meat Roll

Meat Roll with Stuffing

Meat with Vegetables

Meat with Pastry

Meat Pudding

Meat Pie

Sausages

Pork Sausages

Meat Product

provided that in any such declaration:

- (i) The common or usual name or names of the meat or meats present in the container may be substituted for the word "meat".
 - (ii) A word or words accurately describing any method of preparation or processing may be inserted before the word "meat".
 - (iii) The common or usual name or names of the cereal or cereals present in the container may be substituted for the word "cereal".
 - (iv) The common or usual name or names of the vegetable or vegetables present in the container may be substituted for the word "vegetables".
 - (v) The word "mixed" may, where appropriate, be inserted before the word "vegetables".
 - (vi) A word or words accurately describing a jelly, gravy, sauce or pastry may be inserted before the words "jelly", "gravy", "sauce" or "pastry" respectively.
 - (vii) The words "meat loaf" may be substituted for the words "meat roll".
 - (viii) The word "and" may be substituted for the word "with".
 - (ix) In the case of a fully homogenised mixture of comminuted meat and cereal containing not less than 80 per cent of meat, the words "luncheon meat" may be substituted for the words "meat with cereal" and the name or names of the meats present in the container may be inserted before the words "luncheon meat".
 - (x) The words "with dumpling" or the word "with" followed by the common or usual name of any form of pasta may be substituted, where appropriate for the words "with pastry".
 - (xi) The word or words "frankfurters", "liver sausages", "salami", "polonies", "black puddings", "breakfast sausages" or "luncheon sausages" or the singular of these words may be substituted, where appropriate, for the words "pork sausages".
 - (xii) The word "sausage" may be substituted for the word "sausages" the word "puddings" for the word "pudding" and the word "pies" for the word "pie".
 - (xiii) In the case of a product to which paragraph 12 applies, the appropriate description of the meat product may be substituted for or used in addition to the word "meat", as the case may be.
- (b) Such declaration shall be printed distinctively and legibly in dark block type upon a light-coloured ground or in light block type on a dark-coloured ground and shall be so printed within a surrounding line and no matter save as aforesaid shall be printed within such surrounding line. The type shall be of uniform size and colour and the ground within the surrounding line shall be uniform in colour.

List of Ingredients

16. The words "or canned meat products" shall be added to Column 1 of Table C of the First Schedule of the Labelling of Food Order, 1953, as amended.

Advertising

17. (a) No person shall publish, or be party to the publication of, any advertisement for any product for which a standard is laid down in these regulations unless it contains whichever of the descriptions set out in paragraph 15 above is appropriate. The substitutions and additions permitted under paragraph 15 are also permitted under this paragraph.
- (b) In each advertisement—
- (i) The said description shall be used clearly and prominently at least once.
 - (ii) Wherever the said description is used in visual form, the type or characters within any one description shall be of the same size.

APPENDIX II

THE SAMPLING OF CANNED MEAT

Introduction

1. The Food and Drugs Act requires that a sampling officer who purchases or takes a sample of food for analysis shall forthwith divide the sample into three parts, each part to be marked and sealed. The Public Analyst analyses one part, and each of the other two part samples may subsequently be analysed, one by the vendor's consultant and the third, if the Court so directs, by the Government Chemist.

2. It is essential for proper enforcement that the composition of each part sample shall be the same, and sub-division of homogenous food such as most liquids, and some solids *e.g.* sugar, presents little difficulty. For non-homogeneous foods however the provision of a part sample which shall be truly representative of the article purchased, and identical in composition with each of the other two part samples, can be a difficult problem.

3. For those foods contained in unopened containers, and where division into parts is not reasonably practicable or where division might affect the composition, or impede the proper analysis, a variation of the normal procedure is permissible in that one or more unopened containers may be submitted as a part sample for analysis.

Application to Canned Meats

4. Canned Meats are normally sold in unopened containers, and the contents may be relatively homogeneous, *e.g.* comminuted preparations such as meat roll, or non-homogeneous, *e.g.* meat and vegetable stews, tripe and onions. The sub-division of solid homogeneous packs presents no difficulty, but this is not so with the non-homogeneous packs where the food is a mixture of liquid and solids, and where the solids may possess wide differences in composition and texture. For such foods, therefore, there would *prima facie* be an advantage if one or more unopened containers could be submitted as a part sample.

5. It was decided to obtain some analytical results for one of the non-homogeneous products in order to ascertain the variability in composition of the contents of separate cans. In addition two of the cans were the subject of a further experiment in which the contents were mixed with the aid of a hand mincing machine prior to division into three parts in the usual way.

Experimental

6. The food chosen was Irish Stew manufactured by a reputable firm with a modern factory fitted with automatic weighing devices. From a single batch sufficient cans were drawn at random to provide material for the two experiments.

(a) Four unopened cans of Irish Stew were distributed to each of five laboratories. Each can was treated as a unit and was analysed for moisture, fat, nitrogen, and ash, carbohydrate being ascertained by difference. The raw lean meat content was calculated by multiplying the nitrogen figure by $\frac{100}{3.4}$, ignoring any contribution of nitrogen by the vegetables and cereal; the sum of the lean meat and the fat gave the total raw meat content. There were thus twenty separate analyses and twenty values for total meat content.

(b) A further two cans were treated in the orthodox manner except for the use of a small hand mincing machine which is not normally used by a sampling officer. Each can was opened, and the contents passed through the hand mincer. The mince was well mixed, and passed through the mincer a second time. Sub-division was made by feeding the mince a spoonful at a time, in sequence, to each of three jars. Each jar was submitted under code for analysis as though it were an independent sample, and from the resulting analysis the total raw meat content was calculated as before. There were thus two groups of three analyses and six results in all.

Results

7. The following tables give the results obtained, and statistical calculations made therefrom. It was shown by an analysis of variance that laboratory bias was negligible as a factor. The mean, standard deviation, and fiducial limits were calculated for lean meat and total meat contents for each laboratory (four samples) and for all twenty samples. It will be noted that the spread of values is less for the total meat than for the lean meat content, as is to be expected if a fixed weight (or volume) of meat is fed into each can by the filling machine. A high lean meat will be associated with a low fat, and vice versa; hence the variability of the total meat is a better guide than the variability of the lean meat.

Analyses of Cans of Irish Stew

Analyst	Sample No.	Moisture	Ash	Fat	Nitrogen	Protein N x 625	Carbohydrates (by difference)	Lean Meat N x 100 3.4	Fat	Total Meat
A	1	74.1	1.2	9.3	1.400	8.8	6.6	41.2	9.3	50.5
	2	75.2	1.2	9.0	1.194	7.5	7.1	35.1	9.0	44.1
	3	72.6	1.1	12.2	1.051	6.6	7.5	30.9	12.2	43.1
	4	76.2	1.2	6.5	1.373	8.6	7.5	40.4	6.5	46.9
B	1	74.5	1.3	9.5	1.210	7.56	7.2	35.6	9.5	45.1
	2	76.7	1.2	7.0	1.226	7.66	7.5	36.1	7.0	43.1
	3	75.7	1.1	8.3	1.214	7.58	7.3	35.7	8.3	44.0
	4	73.4	1.2	11.9	1.226	7.66	5.9	36.1	11.9	48.0
C	1	78.2	1.3	5.0	1.394	8.70	6.8	41.0	5.0	46.0
	2	76.3	1.2	7.9	1.221	7.63	7.1	35.9	7.9	43.8
	3	74.3	1.2	9.8	1.252	7.82	6.8	36.8	9.8	46.6
	4	74.8	1.3	9.8	1.117	6.99	7.1	32.8	9.8	42.6
D	1	76.5	1.2	6.8	1.152	7.2	8.3	33.9	6.8	40.7
	2	75.9	1.3	5.9	1.409	8.8	8.1	41.4	5.9	47.3
	3	74.9	1.4	8.6	1.118	7.0	8.1	32.9	8.6	41.5
	4	74.9	1.3	9.3	1.088	6.8	7.7	31.9	9.3	41.2
E	1	76.7	1.4	7.4	1.280	8.0	6.5	37.7	7.4	45.1
	2	74.7	1.3	9.0	1.232	7.7	7.5	36.2	9.0	45.2
	3	74.1	1.1	9.9	1.185	7.4	7.5	34.9	9.9	44.8
	4	74.3	1.2	10.2	1.153	7.2	7.1	33.9	10.2	44.1

Statistical Calculations

(a) Lean Meat

Sample No.	Analyst					
	A	B	C	D	E	
1	41.2	35.6	41.0	33.9	37.7	<i>Grand Mean</i> = 36.0 <i>Standard Deviation</i> (total results) = 3.07 <i>Fiducial Limits</i> (P=0.95) = 36.0 ± 6.4 — = 29.6 — 42.4 = ± 17.8% of Mean
2	35.1	36.1	35.9	41.4	36.2	
3	30.9	35.7	36.8	32.9	34.9	
4	40.4	36.1	32.8	31.9	33.7	
Mean	36.9	35.9	36.6	35.0	35.7	
Standard Deviation	4.83	0.26	3.35	4.33	1.65	
Fiducial Limits	36.9 ± 15.3	35.9 ± 0.8	36.6 ± 10.8	35.0 ± 13.8	35.7 ± 5.2	
Range	21.6–52.2	35.1–36.7	25.8–47.4	21.2–48.8	30.2–40.9	
% of Mean	± 41.6	± 2.3	± 29.5	± 39.4	± 14.7	

(b) Total Meat

Sample No.	A	B	C	D	E	
1	50.5	45.1	46.0	40.7	45.1	<i>Grand Mean</i> = 44.7 <i>Standard Deviation</i> (total results) = 2.43 <i>Fiducial Limits</i> ($P=0.95$) = 44.7 ± 5.1 = 39.6–49.8 = $\pm 11.4\%$ of Mean
2	44.1	43.1	43.8	47.3	45.2	
3	43.1	44.0	46.6	41.5	44.8	
4	46.9	48.0	42.6	41.2	44.1	
Mean	46.2	45.1	44.8	42.7	44.8	
Standard Deviation	3.32	2.09	1.87	3.10	0.50	
Fiducial Limits	46.2 ± 10.5	45.1 ± 6.8	44.8 ± 6.0	42.7 ± 9.9	44.8 ± 1.6	
Range	35.7–56.7	38.3–51.9	38.8–50.8	32.8–52.6	43.2–46.4	
% of Mean	± 22.8	± 15.0	± 13.3	± 23.2	± 3.6	

8. The following figures were obtained by the analysis of part samples obtained by the "orthodox procedure". The data are insufficient for effective statistical calculation, but it can be seen that variation between the three part samples in each of the two groups is somewhat less than the variation between unopened cans.

Analysis of Tin A and Tin B, each divided into 3 parts

	Tin A			Tin B		
Moisture	74.94	75.26	74.66	73.73	74.71	74.50
Fat	8.87	8.54	9.32	10.33	9.29	9.54
Nitrogen	1.015	0.927	0.955	1.036	1.115	1.192
Protein (N x 6.25)	6.34	5.79	5.96	6.48	6.97	7.45
Carbohydrates	8.65	9.27	8.87	8.28	7.80	7.30
Ash	1.20	1.14	1.19	1.18	1.23	1.21
Lean Meat (N x 100)	29.8	27.3	28.1	30.5	32.8	35.1
(3.4)						
Total Meat	38.7	35.8	37.4	40.8	42.1	44.6

V. Conclusions

9. (a) There is considerable variation in the composition of the contents of different cans drawn from the same batch of Irish Stew, but the spread of values for total meat content is not such as to suggest that a standard would be of doubtful value or that there would be serious difficulties in enforcement.
- (b) The variation in part samples obtained by the orthodox method (with the added refinement of a mincing machine) is not greater than the unopened container variation, and may be somewhat less.
- (c) There seems to be no need to prescribe any additional sampling provisions for canned meats.
- (d) The appropriate parameter on which to base a standard would appear to be total meat rather than lean meat content.

APPENDIX III

List of interests which have given evidence or have been consulted

High Commissioner for Australia

Association of County Councils in Scotland

Association of Municipal Corporations

Association of Public Analysts

Convention of Royal Burghs

Counties of Cities Association

County Councils' Association

Urban District Councils' Association

Food Manufacturers' Federation

London Chamber of Commerce

Provision Importers' Association

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